

### **Abstract of the Disclosure**

This invention presents an ion exchange media including a plurality of cation exchange zones and anion exchange zones in flow paths that are contained in a substantially nonporous resin transport framework. During electrodeionization and other potential applications the ion exchange media of the invention prevents unfavorable water splitting at resin-membrane interfaces and encourages water splitting at resin-resin interfaces where the water splitting may be constructively used to regenerate the resin.